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(54) Title: TRANSPARENT MASTERBATCHES FOR THERMOPLASTICS

(57) Abstract: The invention relates to a transparent masterbatch for improving the surface properties of thermoplastics, said masterbatch containing from 10% to 60% by weight of polyhedral oligomeric silicon-oxygen cluster units in accordance with the formula $[(R_aX_b,SiO_{1.5})_m (R_cX_dSiO)_n (R_cX_fSi_2O_{2.5})_o (R_gX_hSi_2O_2)_p] \text{ where: } a,b,c=0-1; d=1-2; e,f,g=0-3; h=1-4; m+n+o+p \geq 4; a+b=1; h=1-4; h=$ c+d = 2; e+f = 3 and g+h = 4; R = hydrogen atom, alkyl, cycloalkyl, alkenyl, cycloalkenyl, alkynyl, cycloalkynyl group or polymer unit, each substituted or unsubstituted, or further functionalized polyhedral oligomeric silicon-oxygen cluster units attached via a polymer unit or a bridging unit, X = oxy, hydroxy, alkoxy, carboxy, silyl, alkylsilyl, alkoxysilyl, siloxy, alkylsiloxy, alkoxysiloxy, silylalkyl, alkoxysilylalkyl, alkylsilylalkyl, halogen, epoxy, ester, fluoroalkyl, isocyanate, blocked isocyanate, acrylate, methacrylate, nitrile, amino, phosphine or polyether group or substituents of type R containing at least one such group of type X the substituents of type R being identical or different and the substituents of type X being identical or different and from 40% to 9011/o by weight of a thermoplastic carrier material, and to a transparent thermoplastic and to its production process.





A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C08J3/22 C08L83/04

C08L83/06

C08L83/08

CO8L101/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched} & \mbox{(classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{C08L} & \mbox{C08J} \end{array}$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

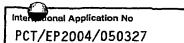
Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/018486 A1 (LICHTENHAN ET AL) 30 August 2001 (2001-08-30) *page 3, claims 1,8*	1-12
X	US 2003/018109 A1 (HSIAO ET AL) 23 January 2003 (2003-01-23) p.3claim 1	1-12
Х,Р	WO 03/042292 A (CREAVIS) 22 May 2003 (2003-05-22) claims 2,12,15,27	1–12
х	US 2003/050408 A1 (PUHALA ET AL) 13 March 2003 (2003-03-13) claim 1	4
	-/	

X Further documents are listed in the continuation of box C.	X Patent family members are listed in annex.
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Date of the actual completion of the international search 11 November 2004	Date of mailing of the international search report 22/11/2004
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C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	FC1/EP2004/05032/		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
A	LICHTENHAN ET AL: "Thermoplastic hybrid materials etc." MAT.RES.SOC.SYMP.PROC., MATERIALS RESEARCH SOCIETY, vol. 435, 1996, pages 3-11, XP008014654 *see abstract +introduction*	1-12		
A	HADDAD ET AL: "Hybrid organic-inorganic thermoplastics: etc." MACROMOLECULES, vol. 29, 1996, pages 7302-7304, XP000629343 *see whole doc.*	1-12		

IN PNATIONAL SEARCH REPORT

Information on patent family members

International Application No PCT/EP2004/050327

	Patent document cited in search report		Publication date		Patent family member(s)	Publication date
	US 2001018486	A1	30-08-2001	NONE		
	US 2003018109	A1	23-01-2003	NONE	~~~~~~~~~~~~~~~.	
	WO 03042292	Α	22-05-2003	DE WO	10249563 A1 03042292 A2	28-05-2003 22-05-2003
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